Atty. Docket No.: CA1400
PATENT APPLICATION

PRELIMINARY AMENDMENT
U.S. Application No.: 10/684,296

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Original*) A method for assigning notes to be played by a musical synthesizer to a predetermined number of channels of said musical synthesizer, said method including the following steps:

(a) receiving a signal indicating a new note event, wherein a new note event is one of the following two events relating to a particular note: (i) the addition of said particular note (referred to herein as a "note-on event") to the notes being played by the musical synthesizer and (ii) the deletion of said particular note from the notes being played by said musical synthesizer;

(b) determining whether said new note event is a note-on event;

(c) if said new note event is a note-on event, adding said particular note to a notes-on list;

(d) if said new note event is not a note-on event, deleting said particular note from said notes-on list;

(e) determining how many notes are on said notes-on list;

(f) selecting an assignment table corresponding to the predetermined number of channels and how many notes are on said notes-on list;

(g) assigning notes to said channels pursuant to said assignment table and said notes-on list; and

(h) sending to said musical synthesizer a set of commands corresponding to the assignment of notes to channels.

2. (*Original*) The method of Claim 1, wherein step (e) is as follows;

(e) determining how many notes are on said notes-on list and if there is not at least one note on said notes-on list, issuing a note-off command to said musical synthesizer for any note currently being played on any channel.

3.-21. (*Cancelled*)

22. (*New*) The method of claim 1, wherein when the number of notes on said notes-on list is larger than the predetermined number of channels, the method further performs the steps:

identifying certain notes as supplemental notes; and

performing additive polyphony to assign said supplemental notes to said channels.

23. (*New*) The method of claim 1, wherein said assignment table comprises an orchestral algorithm.

24. (*New*) The method of claim 1, wherein said assignment table comprises a lookup table.

25. (*New*) The method of claim 1, wherein said assignment table comprises an allocation map.

26. (*New*) The method of claim 1, wherein said step of assigning notes comprises performing one of a top weighting and a bottom weighting assignment of said notes.

27. (*New*) The method of claim 1, further comprising the step of sorting said notes-on list in order according to the pitch of each of said note.

28. (*New*) The method of claim 1, wherein when said new note event is a deletion of said particular note, the method performs the step of assigning a different note from said note-on list to the channel that was previously playing said particular note.

29. (*New*) The method of claim 28, further comprising appending a soft-note instruction to said assigning of a different note.

30. (*New*) The method of claim 1, wherein when said note event is a note-on event, said set of commands further comprises a hard-note instruction.

31. (*New*) The method of claim 1, wherein step (h) comprises sending to a channel commands buffer a set of commands corresponding to the assignment of notes to channels.

32. (*New*) A method for dynamically assigning notes to be played by a musical synthesizer, comprising:

providing at least one note assignment table;

setting a predetermined number of channels for playing assigned notes;

determining the number of notes to be played at a current instance;

using said note assignment table to assign each of said notes to a respective channel of said predetermined number of channels.

33. (*New*) The method for dynamically assigning notes according to claim 32, wherein providing at least one note assignment table comprises providing a plurality of note assignment tables and wherein the method further comprises selecting one of said note assignment tables to assign each of said notes.

34. (*New*) The method for dynamically assigning notes according to claim 33, wherein at least one of said note assignment tables comprises a preferential weighting note assignment table.

35. (*New*) The method for dynamically assigning notes according to claim 34, wherein said preferential weighting note assignment table is one of a bottom weighting note assignment table and a top weighting note assignment table.

36. (*New*) The method for dynamically assigning notes according to claim 32, further comprising the step of sorting said notes in order according to the pitch of each of said notes.

37. (*New*) The method for dynamically assigning notes according to claim 32, wherein when the number of notes is larger than the predetermined number of channels, the method further comprises:

identifying certain notes as supplemental notes; and

performing additive polyphony to assign said supplemental notes to selected ones of said predetermined number of channels.

38. (*New*) The method for dynamically assigning notes according to claim 37, further comprising the step of sorting said notes-on list in order according to the pitch of each of said notes.

39. (*New*) The method for dynamically assigning notes according to claim 32, wherein said assignment table comprises an orchestral algorithm.

40. (*New*) The method for dynamically assigning notes according to claim 32, wherein said assignment table comprises a lookup table.

41. (*New*) The method for dynamically assigning notes according to claim 32, wherein said assignment table comprises an allocation map.

42. (*New*) The method for dynamically assigning notes according to claim 32, wherein each of said channels represent a single musical instrument.

43. (*New*) The method for dynamically assigning notes according to claim 32, wherein each of said channels represent a sub-section of an orchestral section.

44. (*New*) The method for dynamically assigning notes according to claim 32, further comprising providing one of a hard-note and soft-note instruction to each one of said predetermined number of channels.

45. (*New*) A note allocation processor operable in conjunction with an input device and a note player, said note player having a predetermined number of channels, said note allocation processor comprising:

an input for receiving note signals from said input device;

an output for providing note assignment to said note player;

a note counter;

at least one note assignment table;

a central processor preprogrammed to obtain the number of notes indicated in said note counter and assign each note to a respective one of said channels according to said note assignment table.

46. (*New*) The note allocation processor of claim 45, further comprising a channel comparison counter indicating the number of channels having been assigned a note.

47. (*New*) The note allocation processor of claim 45, further comprising a sorted note list memory, and wherein said central processor sorts said notes according to the pitch of said notes and stores a sorted note list in said sorted note list memory.

48. (*New*) The note allocation processor of claim 45, further comprising a notes-on list memory storing all notes to be played at a given instance.

49. (*New*) The note allocation processor of claim 45, further comprising a notes-on list memory storing all notes to be played at a given instance, and wherein when the number of notes to be played exceeds said predetermined number of channels, said central processor designates selected ones of said notes on as being supplemental notes.

50. (*New*) The note allocation processor of claim 45, wherein each of said note signals represents one of: a single musical instrument, an orchestral section, and a non-musical instrument audio sound.